

ASSIGNMENT 4

Textbook Assignment: "Meteorological Products and Tactical Decision Aids," "Oceanographic Products and Tactical Decision Aids," "Operational Oceanography" and "Special Observations and Forecasts." Pages 7-1 through 10-12.

- 4-1. The Electronic Countermeasures (ECM) effectiveness display provides airborne jammer effectiveness for a maximum of how many ranges?
1. 10
 2. 7
 3. 5
 4. 4
- 4-2. Which of the following parameters is NOT an input to the D-Value (DVAL) program?
1. Temperature
 2. Pressure level in feet
 3. Specification of output units
 4. Specification of output altitude increments
- 4-3. Which of the following factors is considered the primary cause of EM propagation loss with regard to the Battle Group Vulnerability (BGV) product?
1. Water vapor
 2. Refraction
 3. Haze
 4. Obstructions to vision
- 4-4. The Electromagnetic Path Loss (LOSS) program is valid only for EM systems with frequencies between what range?
1. 10 Hz and 100 Hz
 2. 100 Hz and 1 MHz
 3. 1 MHz and 1 GHz
 4. 100 MHz and 20 GHz
- 4-5. What is the maximum intercept range available when you use the Electronic Support Measure (ESM) program?
1. 100 km
 2. 500 km
 3. 1,000 km
 4. 10,000 km
- 4-6. The Platform Vulnerability (PV) program assumes emitters are radiating at what power level?
1. Average power level
 2. Minimum power level
 3. Maximum power level
 4. Multiple power level
- 4-7. Which of the following statements is accurate concerning detection ranges in the Surface-Search Radar Range (SSR) tables?
1. There are three screen outputs
 2. Ranges are expressed in metric units only
 3. Detection ranges represent average distances to the objects only
 4. Detection ranges represent minimum, average, and maximum ranges to the objects
- 4-8. The coverage display model can be used for all EXCEPT which of the following applications?
1. Airborne or surface-based surface-search radars employed against surface targets
 2. Long-range air-search radars, surface-based or airborne
 3. Surface-search radars when employed against low-flying targets
 4. Sonobuoys (with proper antenna height and frequency)
- 4-9. The function of the coverage display model is to calculate the maximum radar range for a given radar and target.
1. True
 2. False
- 4-10. The Ship Ice Accretion (SHIP ICE) program algorithm considers air temperatures in what range?
1. 35°F to -10°F
 2. 33°F to -5°F
 3. 0°C to -21°C
 4. -2°C to -21°C
- 4-11. What equivalent explosive weight is used with the Sound Focus (SOCUS) program in a reduced charge muzzle blast from a 16-inch naval gun?
1. 66 lb
 2. 198 lb
 3. 330 lb
 4. 400 lb

- 4-12. Which of the following statements is valid concerning the Laser Range Prediction (LRP) program?
1. The program's Night/Day display incorporates several sets of eye apertures for various exposures
 2. The program operates on a frequency specified basis
 3. The program is not to be used for air-to-air scenarios
 4. Data-base computations select the pulse repetition frequency for the minimum power of a particular radar
- 4-13. What is the minimum requirement, if any, for the upper air-sounding used with the Ballistic Wind and Densities Corrections (BALWND) program?
1. The sounding must contain at least five significant levels between the surface and the 700-hPa level
 2. The sounding must contain upper wind data
 3. The sounding must be within 100 nm of the forecast point
 4. None
- 4-14. All EXCEPT which of the following parameters are user inputs to the Radiological Fallout (RADFO) model?
1. Weapon yield
 2. Type of burst
 3. Location
 4. M-unit profile
- 4-15. The RADFO model is meant to be used only for which type of nuclear bursts?
1. High-altitude bursts
 2. Deep-water bursts
 3. Deep-underground bursts
 4. surface or near-surface bursts
- 4-16. Which of the following statements is accurate with regard to the Forward-Looking Infrared (FLIR) program?
1. Weather changes throughout the forecast period are inputs to the program
 2. Attenuation due to rain, fog, and haze are considered in the program
 3. FLIR data may be interpolated for a layer above the maximum height of the sounding
 4. Generally, the higher the wind speed, the shorter the ranges
- 4-17. At which of the following levels does the Aircraft Icing (AIRICE) program start its analysis?
1. The LFC
 2. The LCL, or the surface if no LCL exists
 3. The 1,000-hPa level
 4. The CCL
- 4-18. Which of the following percentages are icing probability outputs from the AIRICE program?
1. 10, 20, 50, and 100% probabilities
 2. 50 and 100% probabilities
 3. 25, 50, 75, and 100% probabilities
 4. Trace, 50, and 100% probabilities
- 4-19. Which of the following statements concerning the Tidal Prediction (TIDE) module is valid?
1. The TIDE module can be used for any coastal location
 2. By inputting the current surface observation, surf conditions may also be calculated
 3. A maximum of five stations may be retrieved at any one time
 4. Tidal currents can not be predicted by using the TIDE module
- 4-20. What is the maximum number of leg segments that may be used with the trackline scenario of the Naval Search and Rescue (NAVSAR) program?
1. One
 2. Five
 3. Three
 4. Four
- 4-21. Which of the following statements is NOT valid regarding the NAVSAR program?
1. The user can request up to five search object probability maps
 2. The search altitude entry for a ship is the ship's bridge height or the height of the sensor
 3. The user inputs all sweep widths
 4. A maximum of eight weather observations may be entered

- 4-22. Which of the following statements is valid regarding the Raytrace (RAY) program?
1. The program uses several sound speed profiles simultaneously to generate a RAY diagram
 2. The program traces only outgoing rays
 3. The program calculates RAY diagrams for flat ocean bottoms only
 4. Extrapolated data from sound speed profiles that do not extend to 2500 m is very accurate
- 4-23. Which of the following inputs is/are selectable for the Passive Acoustic Propagation Loss (PPL) program?
1. Mean water salinity
 2. Mean water density
 3. Target trackline data
 4. Source and receiver depths
- 4-24. Which of the following statements is accurate regarding the Passive Acoustic Propagation Loss (PPL) program?
1. Convergence zone path cannot be inferred from the PPL output
 2. The homogeneity of the watermass is not considered when using the program
 3. Reliable output is constrained
 4. PPL is a range dependent acoustic model
- 4-25. The QPL program uses both the LFBL data base and the COLOSSUS data base to estimate propagation loss.
1. True
 2. False
- 4-26. Which of the following statements is accurate regarding the Near-Surface Ocean Thermal Structural (NOTS) program?
1. The program may be used in all oceanic areas
 2. The program is used to forecast changes in the upper ocean temperatures
 3. Output is available in a tabular output only
 4. Output from the program is always unclassified
- 4-27. Which of the following information may NOT be inferred from a Sound Speed Profile (SSP) module output?
1. The existence of sound channels
 2. The existence of convergence zones
 3. The sonic layer depth
 4. The presence of bottom bounce
- 4-28. Fleet Numerical Meteorology and Oceanography Center (FNMOC), Monterey, California, reviews all Bathy data prior to retransmission in a Bathy collective.
1. True
 2. False
- 4-29. RP33 offers assistance in the ordering of MOE charts.
1. True
 2. False
- 4-30. In order for a usable convergence zone path to exist, the water column must be deeper than the limiting depth by at least how many fathoms?
1. 50
 2. 200
 3. 300
 4. 500
- 4-31. Which of the following factors has a major impact on bottom bounce transmission?
1. Composition of the bottom
 2. Depth of the sound channel axis
 3. Depth of the mixed layer
 4. Strength of the thermocline gradient
- 4-32. Which of the following displays is an output from the Sonic Layer Depth (SLD) product?
1. A shaded SLD display expressed in meters
 2. A shaded SLD display expressed in feet
 3. A shaded SLD display expressed in kiloyards
 4. A Regional Grid SLD display expressed in kiloyards

- 4-33. Which of the following statements regarding surface ducts is NOT valid?
1. Surface ducts may occur if the temperature within the mixed layer increases with depth
 2. Surface ducts may occur if the temperature within the mixed layer decreases with depth
 3. Surface ducts may occur if the temperature within the mixed layer remains isothermal
 4. Generally, the deeper the mixed layer the more useful the surface duct
- 4-34. Which, if any, of the following statements pertaining to direct path propagation is valid?
1. Direct path is the simplest propagation path
 2. Direct path ranges occur where there is slight to moderate reflection in the layer
 3. The source and receiver must be within 90° of one another in order for direct path to be useful
 4. None of the above
- 4-35. What influence does half-channel conditions have on the speed of sound in water?
1. Sound speeds increase to the top of the main thermocline, then decrease
 2. Sound speeds decrease to the top of the main thermocline, then increase
 3. Sound speed decreases with increasing depth
 4. Sound speed increases with increasing depth
- 4-36. Where is the deep sound channel axis depth located?
1. At the depth of maximum sound speed in the deep sound channel
 2. Always above the mixed layer depth
 3. At the depth of minimum sound speed in the deep sound channel
 4. Always within the main thermocline
- 4-37. What is another name for the deep sound channel?
1. The Optimum (OP) channel
 2. The Sound Fixing and Ranging (SOFAR) channel
 3. The Range/Bearing (RAB) channel
 4. The Search and Rescue (SAR) channel
- 4-38. The relative strength of a shallow sound channel depends upon which of the following characteristics?
1. Surface turbidity
 2. Surface turbidity and temperature
 3. Stratum thickness
 4. Density
- 4-39. Heavy shading on the Shallow Sound Channel Cutoff Frequency display indicates what limiting frequency range?
1. 1 to 50 Hz
 2. 51 to 150 Hz
 3. 151 to 300 Hz
 4. 300 to 500 Hz
- 4-40. Which of the following noise sources is NOT referred to as ambient noise?
1. Noise due to earthquake activity
 2. Noise due to precipitation
 3. Self-noise
 4. Fish/crustacean noise
- 4-41. What is the primary source of low frequency ambient noise?
1. Distant shipping traffic
 2. Fish
 3. Ocean fronts
 4. Turbidity currents
- 4-42. At what sea height would waves first begin to affect active sonobuoy detection?
1. 12 ft
 2. 9 ft
 3. 6 ft
 4. 3 ft
- 4-43. What is a good rule of thumb for sea state noises?
1. Sea state noise increases approximately 2 dB for each increase in sea state
 2. Sea state noise increases approximately 3 dB for each increase in sea state
 3. Sea state noise increases approximately 5 dB for each increase in sea state
 4. Sea state noise increases approximately 6 dB for each increase in sea state

- 4-44. Which of the following statements pertaining to bioluminescent displays is accurate?
1. Most sheet-type bioluminescent displays are found in deep basins
 2. Jellyfish may cause glowing-ball displays
 3. Undulating waves of light are categorized as sheet bioluminescence
 4. Spark-type bioluminescence primarily occurs in warmer waters
- 4-45. The Secchi Disc is used to obtain which of the following information?
1. A common measurement of water transparency
 2. A common measurement of water color
 3. A common measurement of incident illumination
 4. A common measurement of reflectivity
- 4-46. Upwelling is normally found in the western portions of major oceans.
1. True
 2. False
- 4-47. Which of the following statements is NOT characteristic of acoustic effects of fronts?
1. The sonic layer depth (SLD) can change by as much as 1,000 ft in crossing a front
 2. Increased biological activity generally found along a front will increase ambient noise
 3. Towed array accuracies will increase through the front
 4. The depth of the deep sound channel may change by as much as 2,500 ft in crossing a front
- 4-48. Of the following systems, which is a principal mine hunting sonar system?
1. AN/SQQ-32
 2. AN/SQQ-47
 3. AN/SQR-19
 4. AN/SQS-53
- 4-49. Sustained winds of 35 knots or greater define the minimum criteria for which of the following warnings?
1. Wind warnings
 2. Storm warnings
 3. Gale warnings
 4. Small craft warnings
- 4-50. Of the following commands, which would issue tropical warnings for the western Pacific Ocean?
1. NAVPACMETOCCEN WEST GUAM
 2. NAVPACMETOCCEN PEARL HARBOR
 3. NAVPACMETOCFAC YOKOSUKA
 4. NAVLANTMETOCCEN NORFOLK
- 4-51. Which of the following statements regarding the Atmospheric Refractivity Profile Generator (ARPGEN) product is NOT valid?
1. The refractivity data set can accommodate a maximum of five data sets
 2. Levels above 10,000 m are discarded
 3. Four types of historical profiles may be created
 4. M-unit profiles are entered in ascending order
- 4-52. When using the M-unit profile entry of the ARPGEN program, the evaporative duct height is determined by using which of the following parameters?
1. Air temperature, sea level pressure, relative humidity, and wind speed only
 2. Sea surface temperature, dewpoint, relative humidity, and air temperature only
 3. Air temperature, relative humidity, wind speed, and sea surface temperature only
 4. Air temperature and relative humidity only
- 4-53. Which of the following is an accurate statement with regard to altimeter settings?
1. The altimeter is set to the height of the cockpit
 2. The altimeter is set to the station elevation
 3. The altimeter is set to 10 ft above the deck
 4. Naval aircraft have self-adjusting altimeters that do not need manual adjustment
- 4-54. Assume that an aircraft is flying at 9,000 ft. There is a 20-hPa pressure differential between the departure and arrival fields. Approximately how many feet of elevation change would this be?
1. 100 ft
 2. 300 ft
 3. 600 ft
 4. 900 ft

- 4-55. Which of the following statements is generally valid of aircraft during flight?
1. In warmer ambient air, the altitude would be less than indicated
 2. In warmer ambient air, the altitude would be greater than indicated
 3. In colder ambient air, the altitude would be greater than indicated
 4. Aircraft altimeters should never be adjusted while in flight
- 4-56. Which of the following statements is/are valid regarding environmental effects on electro-optical (EO) systems?
1. As wavelength decreases, resolution increases
 2. As wavelength decreases, range decreases
 3. Both 1 and 2
 4. As wavelength decreases, range increases
- 4-57. Of the following statements, which one is accurate concerning "radiative crossover" and electro-optic contrast?
1. Unlike substances always have differing temperatures, enhancing contrast
 2. Like substances heat and cool at different rates, enhancing contrast
 3. All objects heat and cool at the same rate, inhibiting contrast
 4. Different objects may have the same temperature at least twice daily, inhibiting contrast
- 4-58. En route weather (WEAX) and Aviation weather (AVWX) support are requested in movement reports (MOVREPS) in accordance with which of the following publications?
1. NWP-10-1-10
 2. ATP-45
 3. NTP-3
 4. NWP-11
- 4-59. WEAX/AVWX support will be issued twice per day under which of the following weather conditions?
1. Wind speeds equal or exceed 25 knots, or are expected to equal or exceed 25 knots
 2. Seas are 9 ft or greater, or expected to be 9 ft or greater
 3. MINIMIZE is in effect
 4. Seas equal or exceed 12 ft, or are expected to equal or exceed 12 ft
- 4-60. When aircraft are embarked, AVWX will increase to twice per day when which of the following situations occur?
1. Prevailing visibility is at or decreases to less than 6 nm
 2. Prevailing visibility is at or decreases to less than 5 nm
 3. The ceiling is at or decreases to less than 1,500 ft
 4. The ceiling is at or decreases to less than 1,000 ft
- 4-61. Which of the following publications lists characteristics and capabilities of U. S. Navy ships?
1. NWP 65-0-1
 2. NTP-3 SUPP 1
 3. NTP-4
 4. ATP-45
- 4-62. When ditching an aircraft becomes necessary, how should the landing take place when only one swell is present?
1. Landing should take place perpendicular to the swell, preferably on the top or backside of the swell
 2. Landing should take place at a 45-degree angle to the swell, facing into the swell
 3. Landing should take place parallel to the swell, preferably on the top or backside of the swell
 4. No landing should be attempted when swell is present
- 4-63. Which of the following commands can provide assistance in planning specific climatology requirements?
1. NETPMSA, Pensacola
 2. FLENUMMETOCDET, Asheville
 3. NAVEURMETOCCEN, Rota
 4. NAVICECEN, Suitland